

Amendments to the Drawings:

The attached replacement drawing sheet makes changes to Fig. 4 and replaces the original sheet with Fig. 4.

Attachment: Replacement Sheet

REMARKS

Claims 1-20 are pending in this application. By this Amendment, Fig. 4 is revised. No new matter is added. Applicant respectfully requests reconsideration and prompt allowance of the pending claims at least in light of the following remarks.

The drawings are objected to because of inconsistencies in color legend designation between Fig. 4 and Fig. 6. Responsive to the objection, Applicant submits a replacement sheet to correct Fig. 4 by properly hatching the target color consistent with Fig. 6. Thus, the objection is obviated.

Claims 1, 8-10 and 17-20 are rejected under 35 U.S.C. §102(a) over U.S. Patent No. 6,917,704 (Kojima); claims 7 and 16 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kojima in view of U.S. Patent No. 6,575,096 (Caruthers); claims 2, 3, 6, 11, 12 and 15 are rejected under 35 U.S.C. §103(a) as being unpatentable over Kojima in view of U.S. Patent No. 6,108,441 (Hiratsuka); claims 13 and 4 are rejected under 35 U.S.C. §103(a) over Kojima in view of Hiratsuka, and further in view of U.S. Patent Application Publication No. 2002/0090133 (Kim); and claims 5 and 14 are rejected under 35 U.S.C. §103(a) over Kojima in view of Hiratsuka and further in view of U.S. Patent Application Publication No. 2002/0044691 (Matsugu). These rejections are respectfully traversed.

I. Rejections of Claims 1, 10, 19 and 20

Kojima fails to disclose or suggest "calculating a color adjustment distance, which is a distance on the color space between a representative color representing the specific region in the color image and a target color, which is target of the adjustment, on the basis of the representative color and the target color," and "deciding a reproduction color expressing the representative color of the specific region after the adjustment on the basis of the color adjustment distance."

The Office Action alleges that Kojima discloses calculating a color adjustment distance in col. 2, lines 54-65. However, the image processing of Kojima approximates colors of a small region on color images with plural representative colors (col. 2, lines 14-16), and is provided with color difference detecting means for detecting the color difference between colors included in the small region.

This color difference is defined as an Euclidian distance of color vector in the arbitrary color space (col. 2, lines 54-58). That is, Kojima merely discloses detecting a color difference between colors included in the small region, but does not disclose "calculating a color adjustment distance between the representative color and the target color", as recited in independent claims 1, 10, 19 and 20.

The Office Action also alleges that Kojima discloses a method of calculating the representative color in col. 5, line 26 - col. 6, line 49 and provides an example in Fig. 3. As shown in Fig. 3, the average of each color R, G and B in a 4 x 4 small region is calculated (using equation 1) and the variance of the small region is also calculated (using equation 2). G is chosen because its variance is maximum compared to R and B. The region is then divided into two regions 502 and 503 depending on whether G pixel value is greater than the average G value in the region. The representative color of the small region is expressed by representative colors of two sections 502 and 503 designated by C1 and C0. C1 and C0 are averages of regional RGB values in the divided sections 502 and 503 within the small region of 4 x 4 pixels.

Therefore, Kojima's representative colors are chosen based on the average color and variance of the color in the small region. Kojima fails to teach or provide reasons for calculating a color adjustment distance between a representative color and a target color, or deciding a reproduction color expressing the representative color of the specific region after

the adjustment on the basis of the color adjustment distance, as recited in independent claim 1 and similarly recited in claims 10,19 and 20.

The Office Action further alleges that Kojima discloses embodiments for determining a reproduction color by calculating the average color between representative color and target color. Applicant respectfully disagrees.

As can be seen in Fig. 10, representative color Cn is routed to the monitor if the number of display colors is more than a specified number of display colors. In this regard, the reproduction color, the color used for printing a document or displaying the image on the monitor, is the same as representative color Cn.

This is also described in Kojima at col. 3, lines 27-37 where it is stated that representative colors are extracted according to the required number of colors, and that color data is derived "by combining the plural representative colors."

Therefore, Kojima fails to teach or provide a reason to decide a reproduction color "based on the color adjustment distance," and "the reproduction color is located between the representative color and the target color." Accordingly, the independent claims 1, 10, 19 and 20 and claims dependent therefrom distinguish over Kojima. The various secondary references fail to overcome the deficiencies of Kojima.

II. Rejection of Claim 11

Kojima and Hiratsuka, alone or in combination, fail to disclose or suggest "calculating a reproduction distance coefficient, which is used to calculate a reproduction color expressing the representative color of the specific region after color adjustment, on the basis of the color adjustment distance," as recited in independent claim 11.

The Office Action concedes that Kojima fails to teach this feature. The Office Action alleges that Hiratsuka teaches a reproduction distance coefficient calculation unit (Figs. 1 and 2) for calculating a reproduction distance coefficient (luminosity, chroma and hue

parameters), which is used to calculate a reproduction color expressing the representative color of the specific region of the color adjustment (col. 11, lines 11-22; col. 13, lines 10-30), and reproduction color calculation unit for calculating the reproduction color on the basis of the reproduction distance coefficient (col. 11, lines 11-22; col. 13, lines 10-30).

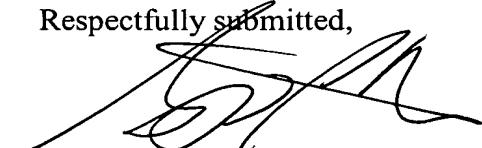
However, the color distance calculation equations in col. 11, lines 11-22, and col. 13, lines 10-30 are to calculate a Euclidean distance between the interpolated color and the designated color on the color space to obtain the interpolated color (Abstract). Hiratsuka uses these distances to interpolate the color adjustment in a five-dimensional table and to calculate accurate level of a reference point (lattice point) (col. 10, line 64 to col. 11, line 3). Therefore, the distance calculated by these equations is not a color adjustment distance nor the reproduction distance coefficient, as recited in claim 11. Hiratsuka fails to teach or provide a reason to provide a color adjustment distance calculation section and a reproduction distance coefficient calculation unit as claim 11. Accordingly, claim 11 distinguishes over Kojima alone or in view of Hiratsuka. The various secondary references fail to overcome these deficiencies.

Accordingly, for at least the above reasons, independent claims 1, 10, 11, 19 and 20 are patentable over the applied references. Claims 2-9 and 12-18 depend from one of claims 1, 10, 11, 19 and 20, and therefore are also patentable over the applied references for at least the same reason as in these claims, as well as for the additional features they recite. For the foregoing reasons, withdrawal of the rejections is respectfully requested.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-20 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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JAO:HXT/amw

Attachment:
Replacement Sheet

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